Facilitators and barriers to teaching undergraduate medical students in general practice

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Facilitators and barriers to teaching undergraduate medical students in general practice

John Richard George Barber,[1] Sophie Elizabeth Park,[1] Kim Jensen,[2] Hannah Marshall,[3] Paula McDonald,[4] Robert Kee McKinley,[2] Hannah Randles[3] & Hugh Alberti[3]

CONTEXT Globally, primary health care is facing workforce shortages. Longer and higher-quality placements in primary care increase the likelihood of medical students choosing this specialty. However, the recruitment and retention of community primary care teachers are challenging. Relevant research was predominantly carried out in the 1990s. We seek to understand contemporary facilitators and barriers to general practitioner (GP) engagement with undergraduate education. Communities of practice (CoP) theory offers a novel conceptualisation, which may be pertinent in other community-based teaching settings.

METHODS Semi-structured interviews were undertaken with 24 GP teachers at four UK medical schools. We purposively sampled GPs new to teaching, established GP teachers and GPs who had recently stopped teaching. We undertook NVivo-assisted deductive and inductive thematic analysis of transcripts. We used CoP theory to interpret data.

RESULTS Communities of practice theory illustrated that teachers negotiate membership of three CoPs: (i) clinical practice; (ii) the medical school, and (iii) teaching. The delivery of clinical care and teaching may be integrated or exist in tension. This can depend upon the positioning of the teaching and teacher as central or peripheral to the clinical CoP. Remuneration, workload, space and the expansion of GP trainee numbers impact on this. Teachers did not identify strongly as members of the medical school or a teaching community. Perceptions of membership were affected by medical school communication and support. The findings demonstrate gaps in medical school recruitment.

CONCLUSIONS This research demonstrates the marginalisation of primary care-based teaching and proposes a novel explanation rooted in CoP theory. Concepts including identity and membership may be pertinent to other community-based teaching settings. We recommend that medical schools review and broaden recruitment methods. Teacher retention may be improved by optimising the interface between medical schools and teachers, fostering a teaching community, increasing professional rewards for teaching involvement and altering medical school expectations of learning in primary care.

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[1]Department of Primary Care and Population Health, University College London, London, UK
[2]School of Medicine, Keele University, Keele, UK
[3]School of Medical Education, Newcastle University, Newcastle upon Tyne, UK
[4]Department of Primary Care and Public Heath, Brighton and Sussex Medical School, University of Brighton, Brighton, UK

Correspondence: John Richard George Barber, Department of Primary Care and Population Health, University College London, London NW3 2PF, UK. Tel: 00 44 7817 032485; E-mail: johnrgbarber@gmail.com

INTRODUCTION

The World Health Organization emphasises the importance of good primary care in improving population health and health equity.[1,2] Globally, primary health care is facing overwhelming demand.[3,4] Growth of the primary care workforce is a global priority and should be rooted in pre-registration training.[5,6] Pre-registration community-based education enhances recruitment across the health workforce.[6–8] For example, the quality and quantity of time, which medical students spend in general practice impact on their eventual decisions on whether or not to pursue this specialty.[9] However, a lack of tutors across primary care is a barrier to the expansion of such education.[10] This shortage is likely to become more acute as, internationally, numbers of health care students increase. Maintaining a balance between service and teaching activities in primary care is crucial to sustainability and career retention in both the short and long terms.[11]

Education in general practice in the UK embodies these issues. There is an acute shortage of general practitioners (GPs) within the workforce and the number of medical school places in the UK is being increased, partly in response to this crisis.[3,12,13] General practice tutor recruitment is problematic.[14] This research was initiated because many of the authors were struggling to recruit and retain local GP tutors and had found little recent relevant literature to inform evidence-based recruitment plans as much of such literature dates from the 1990s.[15–19] That previous research to improve the recruitment and retention of GP teachers originates from the UK, USA, Canada and Australia suggests this is an important issue in many countries.[17,20–22]

The facilitators and barriers to general practice tutors, which have been highlighted by previous research are listed in Table 1.[15–25] More recent research has almost exclusively been questionnaire- and survey-based except in two (an Australian and a UK-based) qualitative studies.[20–24] However, in the former, participants were self-selected and predominantly *current* teachers, whereas the latter studied exclusively long-term placements in a very specific context. The broad purposive sample of this research has enabled us to corroborate previously identified facilitators and barriers and to discover novel factors. Communities of practice (CoP) theory has allowed us to offer new understanding of the 'problem' of GP tutor recruitment and retention from a perspective, which extends beyond the transactional benefits and disadvantages affecting tutors and faculties, and to consider a wide range of factors, including identity and belonging. Furthermore, in demonstrating the importance of relationships across clinical and academic institutions in facilitating teachers' membership and participation, we highlight learning, which may be transferable to other community-based clinical learning situations.

Table 1 Previously identified facilitators and barriers to general practice teaching

Barriers	Facilitators
Lack of time, space and money	Ability to keep up to date and improve practice
Lack of confidence	Enjoyment
Patient fatigue	Promotion of general practice as a career
Organisation of teaching and increased workload	Improvement of doctor–patient and student–doctor relationships
Lack of support from the practice	Variety to working week
Lack of feedback	Improvement in confidence
Lack of support from the medical school or peers	Patient enjoyment
Impact on the relationship with the patient	Recognition of continuing professional development
Stress	Altruism
Employment status	Apprenticeship
	Increased kudos for practice
	Interaction with medical faculty
	Benefits appraisal
	General practice tutor interactions

We now report this multicentre, theory-informed qualitative study of the contemporary facilitators and barriers to GPs' involvement in the teaching of medical students in general practice.

METHODS

Ethical approval

Research ethics approval was obtained from Newcastle University Ethics Committee (ref. 6494/2016). Researchers at the other participating institutions received local approval and duly followed local data protection registration procedures.

Reflexivity

At the commencement of this study, all members of the research team (JRGB, SEP, KJ, HM, PM, RKM, HR and HA) worked as GPs and also as members of teams responsible for their respective medical school's general practice education programmes. We acknowledge that this positioning may have influenced our interpretation of the data and the ensuing recommendations.

Sampling

Four medical schools participated. These ranged from schools struggling to recruit to those with a surplus of teachers and practices, and included schools in metropolitan and provincial settings, large and small schools, and schools using a range of traditional and modern curricula. At each school, we purposively recruited GP teachers who had stopped teaching within the previous 2 years, current established GP teachers who had taught for at least 2 years and GPs who had started teaching within the last 2 years. Within each group, we aimed to recruit partners (who lead and often own the practice), salaried (fixed-term contractors employed by the practice) and locum (employed short-term to cover the absence of a GP) GPs. Participants received information sheets and gave written consent to their participation.

Interviews

Data were collected in one-to-one semi-structured interviews conducted by HR, PM KJ and JRGB. Interviews lasted 30–50 minutes and were audiorecorded and transcribed. The initial interview schedule was developed by HA and SEP and iteratively updated during regular teleconferences amongst the whole research team throughout the process of interviewing and analysis. The transcript of each interviewer's first interview was shared and discussed by the full research team in a teleconference to ensure congruence of approach.

Participants

A total of 24 GPs participated; between five and eight came from each school. In total eight GPs were new teachers, ten GPs were established teachers and six GPs had stopped teaching. 17 GPs were female and nine were male; 16 GPs were partners, six were salaried doctors and two were locums.

Primary analysis

Each interviewer coded his or her own transcripts using NVivo Version 11.0 (QSR International Pty Ltd, Doncaster, Vic, Australia). Transcripts and emerging codes were reviewed in teleconferences and face to face meetings of the whole research team at multiple stages in order to ensure they reflected the breadth of data across the institutions. A sample of transcripts (half) were analysed by at least a second researcher from a different institution. Initial thematic analysis was informed by Braun and Clark.[26]

Theoretical stance and application to analysis

As we became familiar with the data, we recognised that GP teachers were negotiating membership of three communities: a teaching community; a clinical practice community, and the medical school community. Hence, we considered that CoP theory offered the most relevant theoretical framework for analysis.[27]

There are many ways of using CoP theory in research. We have used Wenger's definition of CoPs as groups sharing expertise and practices.[27] Members of a CoP engage in a community through social interactions and active *participation* in social life and through the *reification* of their participation. Reification is achieved by creating physical and conceptual artefacts, which 'reflect a shared experience'.[27,28] The points at which communities overlap are 'boundaries' and movement across boundaries is facilitated by *brokers* who connect different communities. *Boundary objects* are forms of reification, which can be shared between communities or act as barriers between them.[27]

Members of a community can be either full (central) or peripheral, often depending, for example, upon their level and experience of participation.[29]

We were a team of researchers collecting and analysing data across four sites. It was important, therefore, to ensure clarity about our understanding and application of CoP theory in this study. We pursued iterative conversations and the exchange of data to address emerging challenges in the design and analysis phases. We perceived the interrelation of three communities (the clinical, teaching and medical school CoPs) as shown in Fig. 1, which distinguishes factors, which are pertinent to activities within individual communities (A–C) and factors pertinent to multiple or all communities (D–G). We defined four units of analysis: *participation* and *reification* (which relate to individual communities), and *brokers* and *boundary objects* (which relate to the interfaces between multiple communities). This enabled us to approach the data inductively, as well as deductively to look for specific elements relevant to CoP theory. Two or three of categories A–G were allocated to pairs of the research team (HA and HR, RKM and KJ, SEP and JRGB). Depending on which community was relevant and whether they related to one or more community, the codes were divided into categories (A–G). The pairs of researchers then developed initial themes. JRGB reviewed these themes relative to the coded data to ensure themes were inclusive and coherent across the dataset. JRGB, SEP and HA then reviewed, refined and named these themes. This process used CoP theory to critically engage across each category and the dataset as a whole.

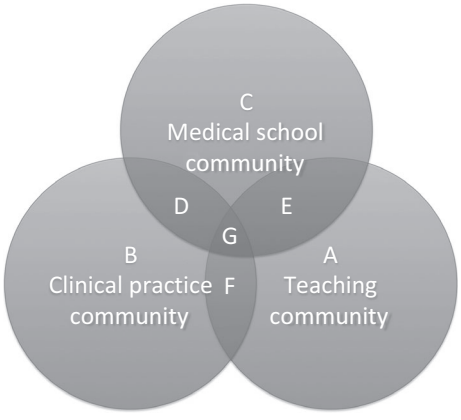

Figure 1 Factors pertinent to activities within individual communities of practice (A–C) and factors pertinent to multiple or all communities (D–G)

We also conducted a deductive analysis by deliberately searching for evidence in the original codes, which would corroborate the facilitators and barriers listed in Table 1. All factors were indeed corroborated by our results.

RESULTS

Themes resulting from the analysis are presented under the heading of the CoP to which they relate. Teaching and teachers vary in their centrality to the clinical CoP. Teachers varied in whether they felt part of a teaching or a medical school community. Where this occurred, participants gave pertinent examples of how perceptions of community were fostered.

The teaching community

Although rarely experienced by participants, membership of a community of teachers was acknowledged as facilitating teaching. The professional identity of tutors as GPs also positively reinforced their desire to teach.

Identity

Some teachers were galvanised to teach because they felt that primary care offered a different but equally valid experience to that offered in hospital. Some commented that it offered a more positive and unique learning environment:

> That's not really the purpose of the job that we do and it's not really to, to teach a lot of pathology and more recognising perhaps some of the signs and the symptoms and managing that and that uncertainty.

Membership of a teaching CoP

Participants' desire to be, and perception of being part of a teaching CoP varied. Those working in practices in which other GPs taught felt they were part of a teaching community which facilitated their teaching participation. Some of those who taught alone felt they lacked a sense of connection to a community although others considered a community was in fact fostered by their medical school:

> No, actually, no, and that's why I like to go [to] the exam because that's the only time we speak to people [other teachers].

The clinical community

The delivery of, respectively, clinical care and medical student teaching were often in tension. The extent of this tension depended on the positioning of teaching as a full or peripheral activity within the clinical community and of the teacher as a full (central) or peripheral member. Physical factors such as the space within the practice also played a role.

Teaching as central or peripheral to the work of the clinical CoP

The tension between service and teaching partly depended on the value given to teaching as work by the clinical CoP and whether the whole team was involved. The tension was greatest when participants portrayed the main work of the CoP of the practice as clinical, and teaching as additional. For some, increasing clinical workload was an insurmountable barrier to teaching and a cause for the marginalisation of teaching within the clinical CoP:

> We just don't have the capacity that we had 5 or 10 years ago, we're all working much longer hours in our own time, doing the stuff that either used to be done by someone else, secondary care or other services that don't exist anymore.

By contrast, the positioning of teaching centrally within the CoP fostered an ethos of teaching and a sense of joint enterprise. Consequently, teaching was seen as a valuable contribution to the clinical CoP. In such practices, teaching was thought to bring prestige to the practice and to make it an overall more attractive place to work. Teaching also reified clinical practice through recognition in annual appraisal:

> I think being a teaching practice does help you recruit and retain … I think the ethos of a teaching practice is slightly different, I think that the perception of teaching practices is that they are perhaps a little bit more up to date, and modern …

> I've always given [teaching] quite high priority, and I suppose being in the fortunate position where that's been valued by my partners, so, it's been seen as part of my contribution.

Teaching–service tensions were reduced in practices in which multiple clinicians shared teaching responsibilities and in which non-medical staff (e.g. practice managers) and members of the wider primary health care team (e.g. heart failure nurses) were involved in the delivery of teaching.

The teacher as central or peripheral to the clinical CoP

The clinician-teacher's position within the clinical CoP also affected the tension between service and teaching. Central members of the clinical community tended to be partners. Although they were perceived as being in an ideal position to foster an ethos for teaching, many partners reported experiencing barriers to teaching, which prompted 'regrettable' decisions to stop. These factors included the responsibility to prioritise patient care at a time when workload was increasing and remuneration for teaching (in real terms) was decreasing.

Training of postgraduate GP trainees was preferred by some participants to undergraduate teaching as it was considered to be financially efficient, to be rewarding in terms of the longitudinal tutor–learner relationship and to enhance the provision of clinical services.

Peripheral members of the clinical CoP, often salaried and locum doctors, were in weaker positions to foster a clinical community-wide sense of the value of teaching. However, they often possessed greater personal autonomy to teach as they were less constrained by the financial practice priorities of partners:

> Most salaried doctors now I think, well most salaried GPs I think have a day a week that they don't work [clinically, when] they're probably much more able than partners are to, to take that time and do something else with it.

Tension occurred when peripheral members relied upon partners and administrative staff in order to deliver teaching. Peripheral members could limit this dependence by taking full responsibility for all aspects of teaching organisation. However, in doing so, teaching became an entirely peripheral activity in the practice:

> … if you come up with a proposal, you can work [it] out with the medical school and you do it outside your core clinical sessions and you can

> make it work in a way that's cost-neutral to the practice, we are very happy for you to do that.

Perhaps the epitome of peripheral membership was represented by the locum doctor who was external to the clinical CoP and therefore often less able to take responsibility for the administrative work involved in teaching. This non-membership was also important to partners (the employers), who described concerns in trusting an often unknown locum to teach when caring for patients.

However, one locum had found 'host' practices for his teaching, and other participants believed that there were locum GPs who were keen to teach but who believed they could not:

> Younger GPs are definitely not going into partnership, not going into salaried positions, so there are more and more portfolio GPs, so we have a whole host of GPs here, who are, maybe, quite keen to teach but they don't have the facilities to do it.

Physical factors

Lack of physical space in which to accommodate students was a common barrier to teaching within the clinical CoP, in both smaller and larger practices. Two participants had received external funding for the provision of extra teaching space.

The medical school community

The medical schools in this study were responsible for the overall delivery of undergraduate student placements in the community. This responsibility included the organising of placements in individual practices. Medical schools play an important role in determining teachers' decisions to teach through the interface they share with teachers, their recruitment strategies and their expectations of practice-based teaching. Feelings of membership of the medical school CoP varied, but, when present, facilitated participation in teaching.

Interface and membership

Teachers felt separated from the medical school by both physical distance and poor communication. Nevertheless, the interface between teachers and the medical school was mediated by both brokers and boundary objects. Administrative staff and teaching leads acted as brokers of this interface and directly impacted on teachers' sense of membership:

> . . . the great thing with someone like X is that you just go to one person, you can send her an e-mail and she'll come back very quickly. So, she is, to us the entry point into the medical school.

Feedback, prizes and other forms of recognition represented boundary objects between the two communities. General practitioners greatly appreciated swift and detailed feedback about their teaching and conversely were discouraged when feedback was inconsistent, absent or not frequent enough.

Events organised for teachers in the medical school reduced the perceived physical barrier between themselves and the medical school community. Participation in other educational activities in the medical school, such as examining, increased the sense of membership, but many teachers commented that they were not made aware of these opportunities.

Medical school recruitment of tutors

Some participants had initiated contact with medical schools themselves and had never received medical school recruitment materials. This highlighted the fact that medical school recruitment does not reach all potential GP teachers. Participants suggested a number of ways in which medical schools might improve recruitment (Table 2).

Medical school expectations of practice-based learning experiences

The interviews highlighted the variety of teaching in general practice. Some of this variation reflected the different expectations of medical schools: placements ranged from 1 day to 15 weeks in length, and learning aims embraced a range of topics relating to general practice and to specialties such as endocrinology. Varying expectations impacted on teachers' motivations to teach; for example, teachers found longitudinal student relationships rewarding in comparison with those developed in short clinical placements. Curricula which required the teaching of specific subjects in general practice reduced teacher autonomy and were perceived to negatively impact on students' engagement with teaching:

Table 2 Recommendations to improve the recruitment and retention of general practitioner (GP) tutors

Retention	
Interface	• Communications: provide a single point of contact for teachers and keep teachers informed of curricular changes • Recognition of teaching (e.g. prizes) • Feedback: detailed, prompt
Community	• Offer teachers opportunities to examine, interview or teach on campus • Organise events: educational and social • Make it possible for teachers to discuss their ideas together
Placements	• Validate the role of general practice placements in learning skills and knowledge, which are distinct from those learned in hospital • Broaden the remit for learning on placements and encourage involvement of the wider primary care team • Structure placements to maximise opportunities for longitudinal student–teacher relationships
Physical barriers	• Hold local meetings • Provide free parking
Recruitment	
Recruitment route	• Evaluate whether recruitment methods have full coverage of potential teachers • Develop a social media presence and advertise online via professional support groups on social media • Ensure all avenues are explored including via professional bodies and networks
Early career doctors	• Advertise via national schemes, which support newly qualified GPs • Ensure GPs in training are aware of opportunities to teach after finishing professional training
Locums	• Encourage locum doctors to retain links with practices in which they are known that might later host them to teach

> X's students all did our heads in because they were so outcome-based . . . they have these green books and you have to tick what they do and if we were doing something that was really exciting with a patient but if they'd already got a tick in that box they weren't interested.

DISCUSSION

Our study demonstrates that the increasing challenges associated with the delivery of clinical care are contributing to the marginalisation of undergraduate community-based teaching. However, this is mitigated in practices, which have positioned teaching as a core activity. A 'frictionless' interface between the school and the teacher's CoP enhances tutors' engagement with the school and may enhance retention. There appears to be an untapped teaching resource in general practice, but schools may need to communicate differently to access and support this.

What this study adds

This is the first reported study about undergraduate clinical teacher recruitment in general practice to explicitly use CoP theory. These findings may have relevance to a number of health care professions delivering workplace-based teaching within the community.[6–8,10,30]

We have highlighted the peripheral position of many teachers relative to both the clinical and teaching communities. Walters et al.[31] alluded to CoP theory by suggesting that identification as a 'central' member of the teaching community may be the most important motivator to teach. With increasing service demands, careful consideration is needed to ensure that teaching is a central, normalised part of clinical work and that teachers, who may be increasingly isolated, are sufficiently supported by the school and benefit from social interactions across a network of teachers. That there were fewest results pertaining to the teaching CoP is a possible indication that teachers feel part of a community of teachers less than they do of a clinical or school community.

Previous research has suggested the importance of both a community of teachers and an interface with the school.[16,18,20,24] Our analysis echoes this and offers a more in-depth perspective on how

this interface might be improved. Our work supports a recent suggestion that good communication and relationships are fundamental to the retention of teaching faculty members.[14] No previous research has elicited the impact of medical school expectations on the desire of GPs to teach.

Previous work has focused on the retention of teachers more than on recruitment. This work is the first to suggest that exposure to medical school recruitment is incomplete.

Strengths and limitations

We consider our purposive sampling of, and access to, the perspectives of teachers who have stopped or only recently started teaching (along with established teachers) and our interviewing across four geographical locations to be both major strengths of this study and novel.

Nevertheless, multi-site working with multiple interviewers presented challenges to analysis. We maximised consistency through the sharing and discussion of initial transcripts, parallel coding at all four centres with regular discussion of the interviews and coding by teleconference, double coding of a large sample of transcripts, and oversight of the whole analysis by a core group. Thus, the analysis was rigorous and theory-driven, and included the variety of perspectives of the four centres.

All members of the research team are GPs and employees of the participating medical schools (JRGB, SEP, KJ, HM, PM, RKM, HR and HA). We acknowledge that this may have influenced our interpretation of the results and have led us to potentially place greater emphasis on certain factors. For instance, our results place strong emphasis on the roles of the clinical practice environment and the medical school. This may have been a result of the theoretical lens chosen or have derived from our positioning as GPs and faculty members. We aimed to mitigate bias attributable to our positioning by acknowledging our preconceived ideas and ensuring that codes remained 'close' to the data.

Communities of practice theory highlighted the importance of community and the isolation of many teachers and, indeed, teaching activity. We used four units of analysis to interpret our data. More data were available for the participation and broker units of analysis categories, whereas data less often pertained to reification and boundary objects. However, boundary objects are likely to facilitate and reward the retention of teachers, and therefore their relative absence is perhaps pertinent; developing these forms of reification, which heighten perceptions of membership might further motivate involvement in teaching.

Recommendations

Recommendations for how institutions might improve their recruitment and retention of community-based teachers are presented in Table 2. Given the heterogeneity of opinion encountered, we expect relevant factors to vary amongst centres and would therefore encourage individual institutions to assess their local needs.

Recommendations emanate directly from the analysis. The majority of our recommendations relate to the school CoP and represent boundary objects, brokers and forms of reification, which schools may seek to develop. Given the increased need for community teachers in numerous countries and their potential relevance to other specialties delivering community-based teaching, we believe these recommendations may be of use internationally.[6–8,10,30] Furthermore, these recommendations may be of interest to other specialties and situations in which there is tension between teaching and service provision.[32]

CONCLUSIONS

Our research has suggested that not all primary care practitioners are aware of local opportunities to teach undergraduate students. Future research might usefully explore the proportion of community practitioners who are unaware of these opportunities and how schools might raise their awareness of them. Future research might also usefully explore the perspectives of community practitioners who do not teach in case there are correctable misconceptions, which hinder them from doing so. Finally, although our work suggests the importance of the relationship between schools and community-based teachers, further research might seek to understand exactly how schools can better support these teachers and whether doing so will improve their retention rates.

Contributors: HA conceived the idea for this study. HA, SEP and RKM designed the study. JRGB, HM, HR, PM

and KJ conducted the interviews and initial analysis under the supervision of HA, SEP and RKM. JRCB, HA and SEP finalised the analysis. JRCB wrote the initial manuscript, which was revised by HA, SEP and RKM.

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